

What is claimed is:

1. An image forming process comprising the step of:
fixing a toner onto an electrophotographic image-receiving sheet with the use of a belt fixing and smoothing apparatus to thereby form an electrophotographic image,
wherein the belt fixing and smoothing apparatus comprising;
a hot-pressing member,
a belt member,
a cooling device, and
a cooling-releasing section,
wherein a total heat capacity per unit area in portions where the belt member, the toner, and the electrophotographic image-receiving sheet are in contact with one another is 840 J/K/m^2 or less.
2. An image forming process according to Claim 1, wherein the total heat capacity per unit area in portions where the belt member, the toner, and the electrophotographic image-receiving sheet are in contact with one another is 600 J/K/m^2 or less.
3. An image forming process according to Claim 1, wherein the belt member has a heat capacity per unit time of 8 J/K/sec or less and a thickness of $200 \text{ }\mu\text{m}$ or less.

4. An image forming process according to Claim 3, wherein the belt member has the heat capacity per unit time of 6.5 J/K/sec or less and a thickness of $150 \text{ }\mu\text{m}$ or less.

5. An image forming process according to Claim 1, wherein a total heat capacity per unit time of the belt member, the toner, and the electrophotographic image-receiving sheet is 20 J/K/sec or less.

6. An image forming process according to Claim 5, wherein the total heat capacity per unit time of the belt member, the toner, and the electrophotographic image-receiving sheet is 14 J/K/sec or less.

7. An image forming process according to Claim 1, wherein a heat capacity per unit area of the belt member in a portion where the belt member is in contact with the electrophotographic image-receiving sheet is 500 J/K/m^2 or less.

8. An image forming process according to Claim 7, wherein the heat capacity per unit area of the belt member in a portion where the belt member is in contact with the electrophotographic image-receiving sheet is 300 J/K/m^2 or less.

9. An image forming process according to Claim 1, wherein a temperature at an interface between a surface of the belt member

and a surface of the electrophotographic image-receiving sheet in the cooling-releasing section is at highest 20°C higher than the higher glass transition point T_g of a resin constituting a toner-image-receiving layer of the electrophotographic image-receiving sheet and of a binder resin constituting the toner.

10. An image forming process according to Claim 1, wherein the belt member comprises:

a heat-resistant support film, and
a releasing layer arranged on the support film.

11. An image forming process according to Claim 10, wherein the releasing layer has a thickness of 1μm to 200μm.

12. An image forming process according to Claim 10, wherein the releasing layer comprises at least one selected from silicone rubbers, fluorocarbon rubbers, fluorocarbonsiloxane rubbers, silicone resins, and fluorocarbon resins.

13. An image forming process according to Claim 10, wherein the releasing layer comprises one of a fluorocarbonsiloxane rubber layer alone or a combination of a silicone rubber layer and a fluorocarbonsiloxane rubber layer arranged on the silicone rubber layer.

14. An image forming process according to Claim 13, wherein the fluorocarbonsiloxane rubber has at least one of perfluoroalkyl ether groups and perfluoroalkyl groups in a principal chain thereof.

15. An image forming process according to Claim 1, wherein the electrophotographic image-receiving sheet comprises a support comprising:

a base; and

each at least one thermoplastic resin layer arranged on both sides of the base, and

wherein the total thickness of the thermoplastic resin layers is 3 μm or more.

16. An image forming process according to Claim 15, wherein the base is raw paper having a thickness of 25 μm to 300 μm .

17. An image forming process according to Claim 15, wherein the thermoplastic resin layers contain a polyolefin resin.

18. An image forming process according to Claim 1, wherein the electrophotographic image-receiving sheet comprises:
a double-sided laminated paper as a support, and
a toner-image-receiving layer arranged on at least one side of the support, the toner-image-receiving layer comprising a

thermoplastic resin and having a thickness of 3 μm or more.

19. An image forming apparatus comprising:

fixing means for fixing a toner onto an electrophotographic image-receiving sheet with the use of a belt fixing and smoothing apparatus to thereby form an electrophotographic image,

wherein the belt fixing and smoothing apparatus comprising;

a hot-pressing member,

a belt member,

a cooling device, and

a cooling-releasing section,

wherein a total heat capacity per unit area in portions where the belt member, the toner, and the electrophotographic image-receiving sheet are in contact with one another is 840 J/K/m² or less.

20. An image forming apparatus according to Claim 19, wherein the belt member has a heat capacity per unit time of 8 J/K/sec or less and a thickness of 200 μm or less.

21. An image forming apparatus according to Claim 19, wherein a total heat capacity per unit time of the belt member, the toner, and the electrophotographic image-receiving sheet is 20 J/K/sec or less.

22. An image forming apparatus according to Claim 19, wherein a heat capacity per unit area of the belt member in a portion where the belt member is in contact with the electrophotographic image-receiving sheet is 500 J/K/m^2 or less.